in the *various claims* must be shown [in the drawings]." (Paper No. 4, Page 2). As described in the Specification, Figure 6 illustrates thin film 60 that includes substrate 62 coated with anti-reflective coating 64. (*See* Specification, Pages 15-17). Therefore, Applicants respectfully submit that the drawings show an anti-reflective coating, as specified in the claims, and request that the Examiner withdraw the objection to the drawings.

Rejections under 35 U.S.C. § 112:

Claims 1-30 have been rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors, at the time the application was filed, had possession of the claimed invention. Claims 1-6 and 7-16 have further been rejected under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Applicants have canceled Claims 1-6 without prejudice or disclaimer. Applicants have amended Claims 7, 17 and 26 and submit that Claims 7, 17 and 26 now meet the requirements of section 112, first paragraph. Applicants respectfully request that the Examiner reconsider and withdraw the rejections to Claims 7-30.

Rejections under 35 U.S.C. §102:

Claims 1-3, 7-9, 17-19 and 26 were rejected by the Examiner under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 5,742,386 issued to Noriyuki Nose et al. (hereafter "Nose").

Nose discloses an apparatus for detecting foreign matter on a substrate. As shown by Figure 7, the transmittance of S-polarized lights changes with the incident angle and the pellicle thickness. (Col. 6, Lines 35-37).

Claim 7, as amended, recites a pellicle comprising "a thin film including an optical thickness, the optical thickness operable to produce a transmission maxima for normal incidence light at a wavelength greater than an exposure wavelength in order to maximize transmission of the exposure wavelength at an angle of incidence greater than zero."

Claim 17, as amended, recites a photolithography system comprising a "thin film including an optical thickness that produces a transmission maxima for normal incidence light at a wavelength greater than the exposure wavelength."

Claim 26, as amended, recites a method for performing photolithography comprising "forming a thin film including an optical thickness, the optical thickness operable to produce a transmission maxima for normal incidence light at a wavelength greater than an exposure wavelength in order to maximize transmission of the exposure wavelength at an angle of incidence greater than zero."

Applicants respectfully submit that the cited reference fails to disclose each and every element of Applicants' invention as amended. Nose fails to teach a pellicle comprising "a thin film including an optical thickness, the optical thickness operable to produce a transmission maxima for normal incidence light at a wavelength greater than an exposure wavelength in order to maximize transmission of the exposure wavelength at an angle of incidence greater than zero," as recited by amended Claim 7. Nose also fails to disclose a photolithography system comprising a "thin film including an optical thickness that produces a transmission maxima for normal incidence light at a wavelength greater than the exposure wavelength," as recited in amended Claim 17. Finally, Nose fails to teach a method for performing photolithography comprising the step of "forming a thin film including an optical thickness, the optical thickness operable to produce a transmission maxima for normal incidence light at a wavelength greater than an exposure wavelength in order to maximize transmission of the exposure wavelength at an angle of incidence greater than zero," as recited by amended Claim 26. The cited reference fails to disclose the recited limitations and, therefore, cannot anticipate Claims 7, 17 and 26.

Given that Claims 8-16 depend from Claim 7, Claims 18-25 depend from Claim 17, and Claims 27-30 depend from Claim 26, Applicants respectfully submit that Claims 8-16, 18-25 and 27-30 are allowable. As such, Applicants respectfully request that the Examiner withdraw the rejections and allow Claims 7-30.

Rejections under 35 U.S.C. §103

Claim 16 was rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable over Nose. Further, Claims 4-6, 10-15, 20-25, and 27-30 were rejected under

35 U.S.C. §103(a) as being unpatentable over Nose in view of U.S. Patent No. 4,657,805 issued to Yasunori Fukumitsu et al.

Claims 10-16 depend from and provide further patentable limitations to allowable Claim 7. Claims 20-25 depend from and provide further patentable limitations to allowable Claim 17. Claims 27-30 depend from and provide further patentable limitations to allowable Claim 26. Therefore, Applicants respectfully submit that the Examiner reconsider, withdraw the rejections and allow Claims 10-16, 20-25 and 27-30.

CONCLUSION

Applicants appreciate the Examiner's careful review of the application. Applicants have now made an earnest effort to place this case in condition for allowance in light of the amendments and remarks set forth above. For the foregoing reasons, Applicants respectfully request reconsideration of the rejections and full allowance of Claims 7-30.

Attached hereto is a marked-up version of the changes made to the claims by the current amendments. The attached pages are captioned **"Version with Markings to Show Changes Made"**.

The Commissioner is hereby authorized to charge any fees or credit any overpayments to Deposit Account No. 02-0384 of Baker Botts L.L.P.

If there are any matters concerning this application that may be cleared up in a telephone conversation, please contact Applicants' attorney at 512.322.2581.

Respectfully submitted,

BAKER BOTTS L.L.P.
Attorneys for Applicants

Paula D. Heyman
Reg. No. 48,363

Date: 7/31/02

2001 Ross Avenue, Suite 600
Dallas Texas 75201-2980
512.322.2581

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE SPECIFICATION

1. Please replace the paragraph beginning on Page 4, Line 21 with the following re-written paragraph:

Referring now to FIGURE 2B, a schematic diagram of conventional off-axis illumination system 30 is shown. Incident light 32 strikes mask 34 with an angle of incidence greater than zero degrees with respect to normal. Incident light 32 passes through single slit 31 and is diffracted. Zero order peak 36 preferably has an angle of diffraction approximately equal to the angle of incidence. First order peaks 37 and 38 are diffracted at respective angles equidistant from zero order peak 36. Since incident light 32 has an angle of incidence greater than zero, first order peak 37 has an angle of diffraction less than zero order peak 36 while first order peak 38 has an angle of diffraction greater than zero order peak **[34]** **36**. The angle of incidence for illumination is chosen such that lens 40 may capture zero order peak 36 and first order peak 37, and project the image features present in zero order peak 36 and first order peak 37 onto a wafer (not expressly shown). Off-axis illumination system 30 may capture more spatial information than normal incidence illumination system 10. However, presently available off-axis illumination systems, such as off-axis illumination system 30, typically do not accurately reproduce all fine features of an image because first order peak 38 has a high angle of diffraction, which cannot be captured by lens 40 without using a much larger numerical aperture lens system.

2. Please replace the paragraph beginning on Page 17, Line 15 with the following re-written paragraph:

FIGURE 7 illustrates a graph of coating 64 thickness versus transmission maxima. As shown in the legend, each peak in transmission may be assigned an order number and each line on the graph corresponds to one of the order numbers. As the thickness of coating 64 increases, the wavelength at which **[pellicle 50]** **film 60** has a transmission peak also increases. Vertical line 70 indicates the peak wavelength for an anti-reflective coating having a particular thickness and horizontal line 72 indicates the thickness of the anti-reflective

coating that will yield a peak at the chosen wavelength. As shown on the graph, films assigned a lower order number produce peaks at higher wavelengths for a given thickness.

IN THE CLAIMS:

Please cancel Claim 1-6 and amend Claims 7-9, 12, 17-19, 21, 26 and 29 as set out below.

Please cancel Claims 1 – 6 without prejudice or disclaimer.

7. **(Amended)** A pellicle comprising a thin film including an optical thickness, **the optical thickness operable to produce [greater than a design thickness that produces]** a transmission maxima for normal incidence light at **a wavelength greater than** an exposure wavelength**[, the optical thickness optimized for transmission of off-axis incident light at a desired angle] in order to maximize transmission of the exposure wavelength at an angle of incidence greater than zero**.

8. **(Amended)** The pellicle of Claim 7, further comprising **increasing** the optical thickness **[greater than the design thickness]** by less than or equal to approximately one-quarter of the exposure wavelength **in order to produce the transmission maxima**.

9. **(Amended)** The pellicle of Claim 7, **[wherein the thin film produces a] further comprising the** transmission maxima **[at a wavelength] located** between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

12. **(Amended)** The pellicle of Claim 10, **[wherein the anti-reflective coating produces a] further comprising the** transmission maxima **[at a wavelength] located** between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

17. **(Amended)** A photolithography system for optimizing off-axis transmission of light, comprising:

a photomask; and

a pellicle comprising:

a frame coupled to the photomask; and

a thin film operable to transmit approximately ninety-nine percent (99%) of off-axis light at an exposure wavelength, the thin film including an optical thickness **[greater than a design thickness]** that produces a transmission maxima for normal incidence light at **a wavelength greater than** the exposure wavelength.

18. **(Amended)** The system of Claim 17, further comprising **increasing** the optical thickness **[greater than the design thickness]** by less than or equal to approximately one-quarter of the exposure wavelength **in order to produce the transmission maxima**.

19. **(Amended)** The system of Claim 17, **[wherein the thin film produces a] further comprising the** transmission maxima **[at a wavelength] located** between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

21. **(Amended)** The system of Claim 20, **[wherein the anti-reflective coating produces a] further comprising the** transmission maxima **[at a wavelength] located** between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.

26. **(Amended)** A method for performing photolithography, comprising:

forming a thin film **[with] including** an optical thickness**, the optical thickness operable to produce [greater than a design thickness that produces]** a transmission maxima for normal incidence light at **a wavelength greater than** an exposure wavelength**[, the optical thickness optimized for transmission of off-axis incident light at a desired angle] in order to maximize transmission of the exposure wavelength at an angle of incidence greater than zero**;

attaching the thin film to a frame to form a pellicle;

mounting the pellicle to a photomask; and

exposing the pellicle and the photomask to radiant energy having the exposure wavelength.

29. **(Amended)** The method of Claim 26, **[wherein the thin film produces a]** **further comprising the** transmission maxima **[at a wavelength]** **located** between approximately one nanometer and approximately twenty nanometers above the exposure wavelength.